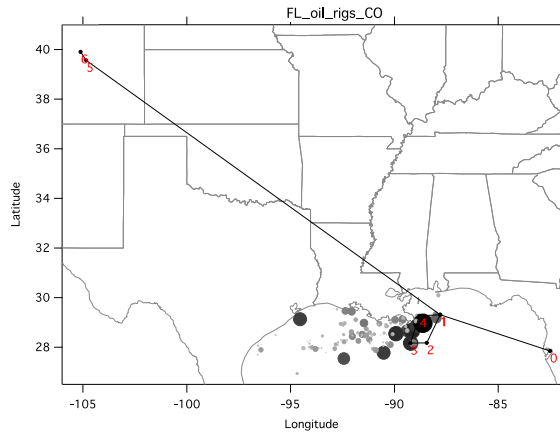
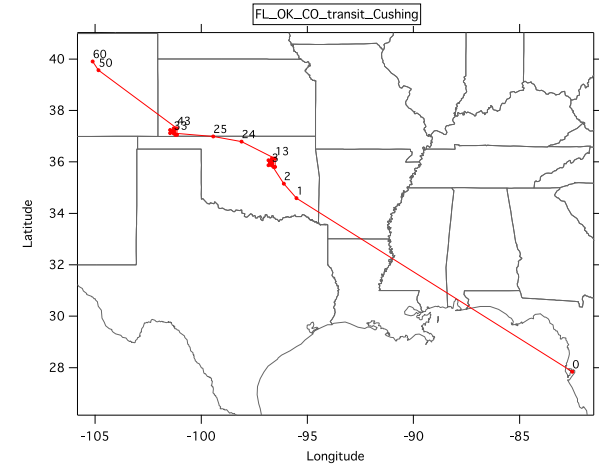


# RAQMS 20150321 SONGNEX 30hr Forecast for 18Z March 21, 2015 Transit Flight 10 AM (14Z) take-off

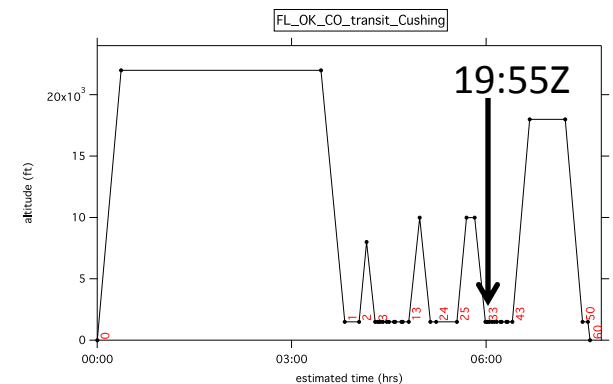
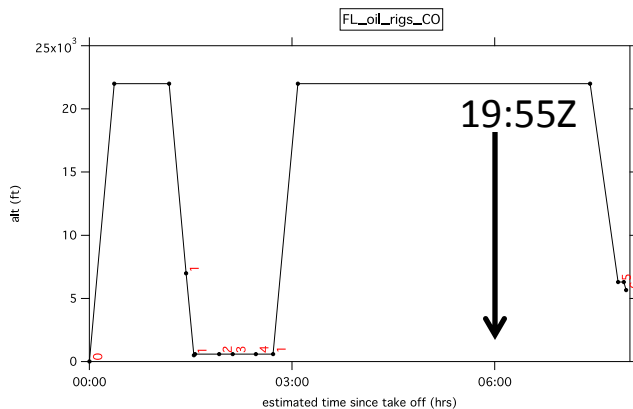


Circles in Gulf indicate locations of platforms scaled by NO<sub>x</sub> emission (2004).  
 The platform information is outdated. Pt1 - Pt4 covers the area of the WP3 DWH  
 research flights in 2010.

Pt5 (Centennial Airport) to Pt6 (Rocky Mountain Airport) is within the PBL across Denver.



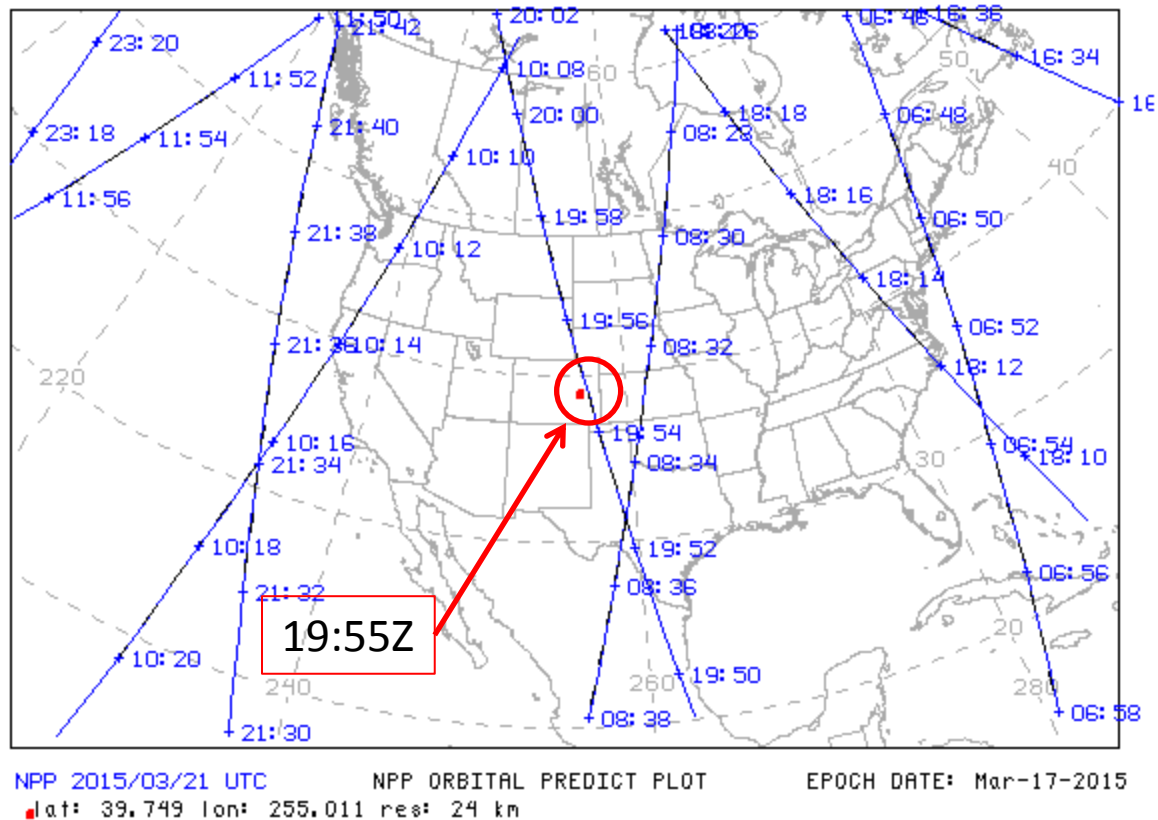
## Tentative Flight Plans



# S-NPP (CrIS) overpass on 2015/03/21

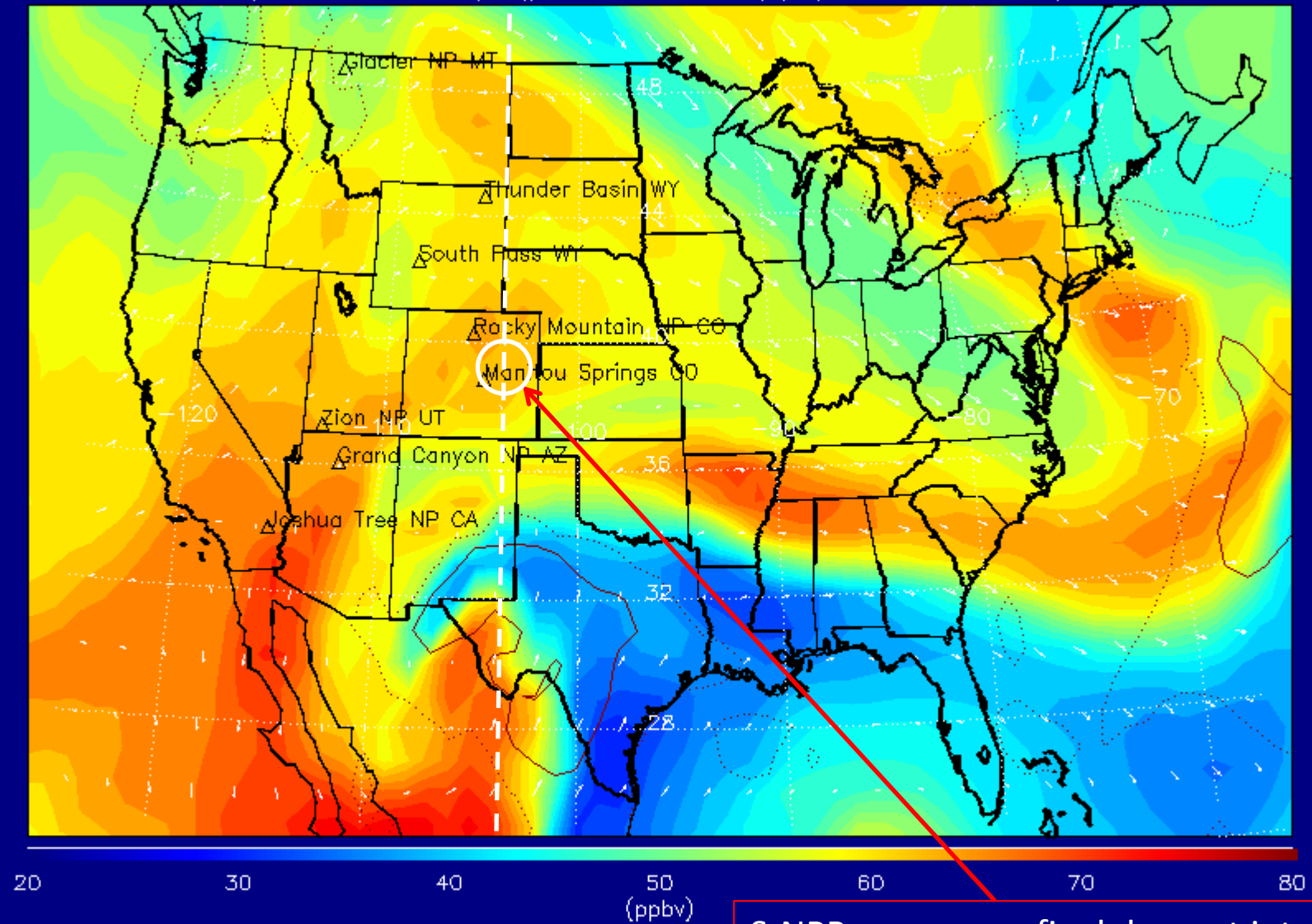
## NUCAPS CO<sub>2</sub>, O<sub>3</sub>, CO, CH<sub>4</sub> Validation Opportunity

S-NPP overpass is just east of Denver (red dot) at 19:55Z (1:55pm Mountain)



05km O<sub>3</sub> 18Z 20150321

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.217957 mm/hr

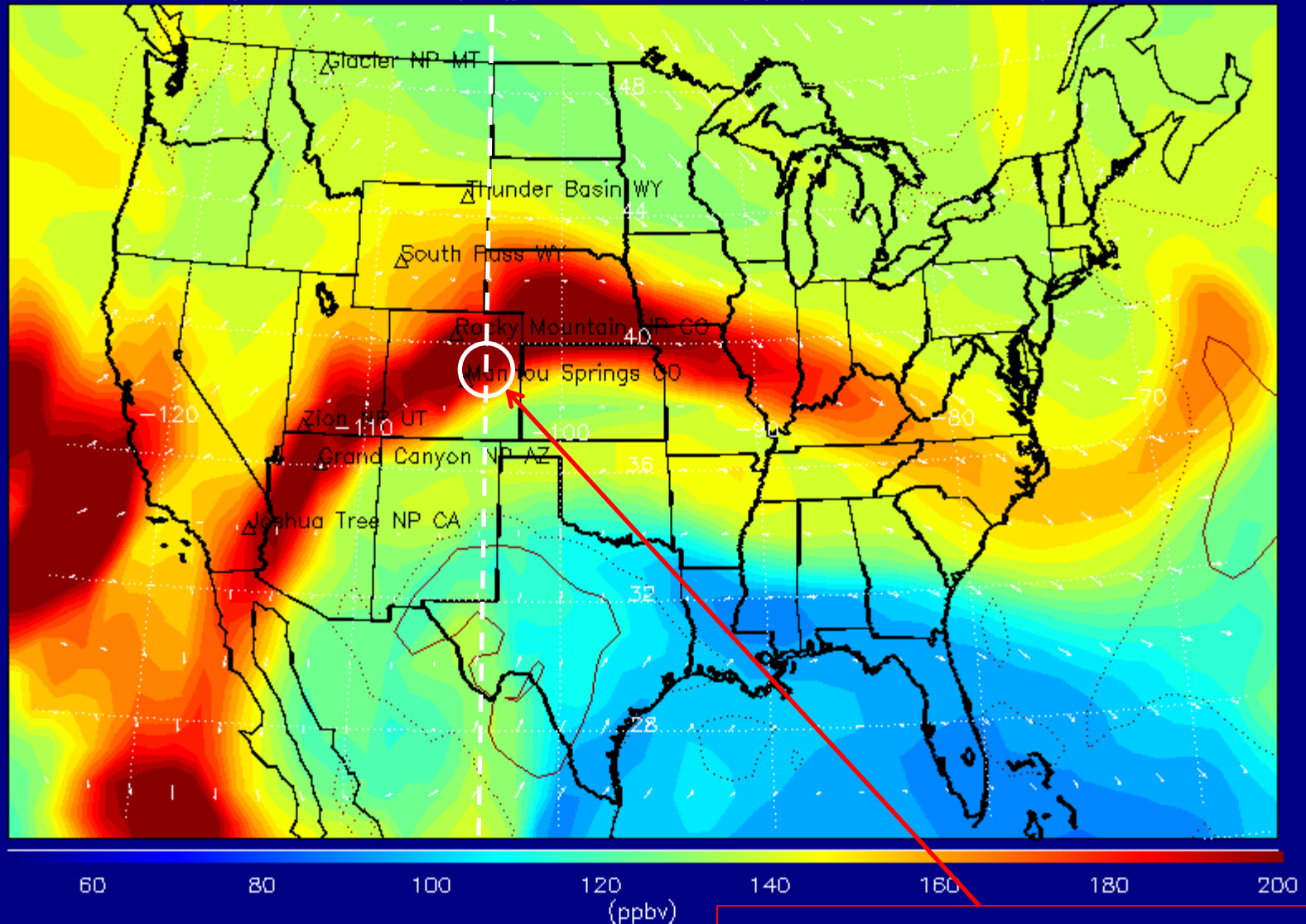


RAQMS<sub>6</sub> 30hr Fx Initialized 12Z 20150320

S-NPP overpass – final descent into Denver

05km CO 18Z 20150321

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.217957 mm/hr

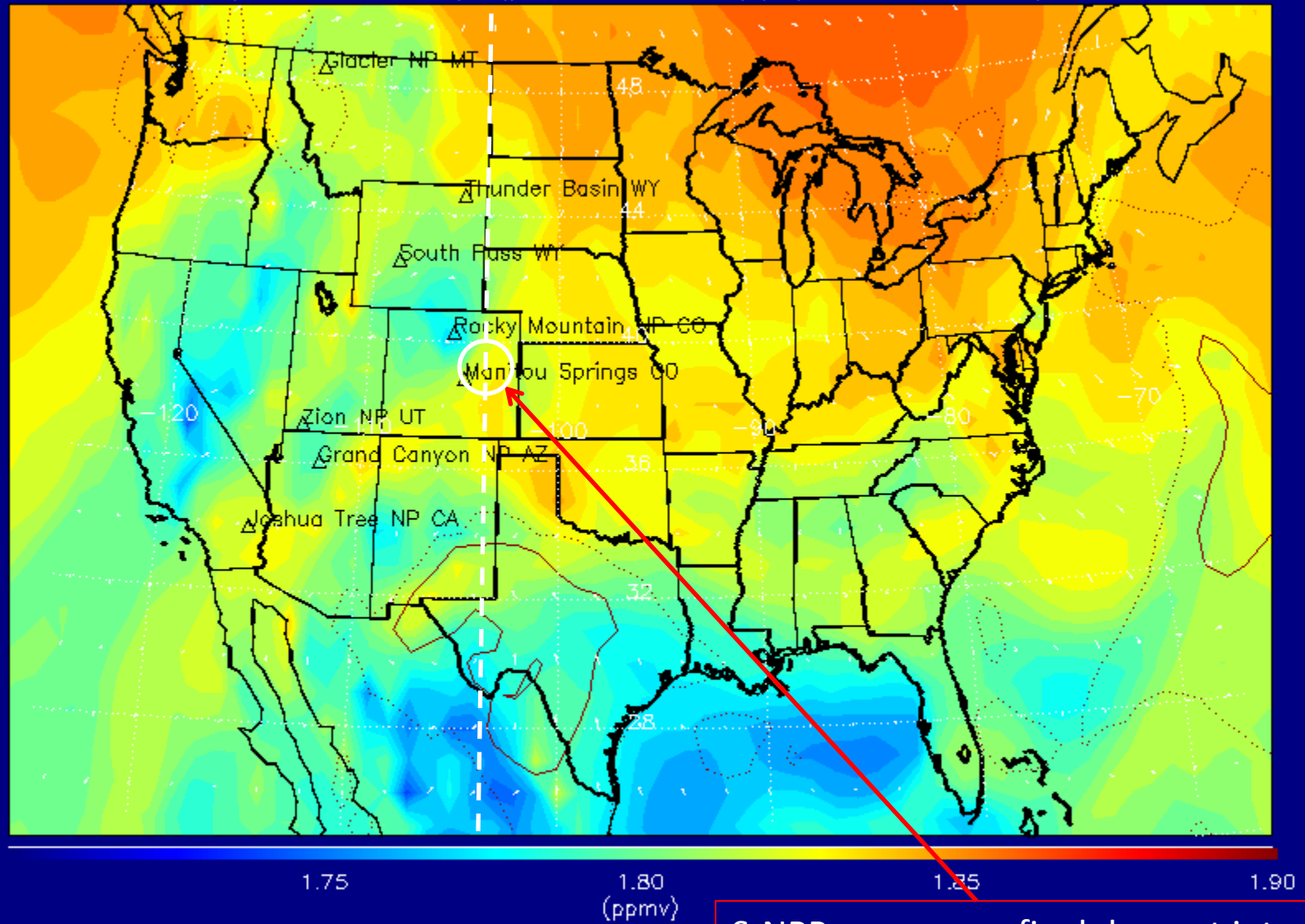


RAQMS<sub>6</sub> 30hr Fx Initialized 12Z 20150320

S-NPP overpass – final descent into Denver

01km AGL CH4 18Z 20150321

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPGP=0.217957 mm/hr

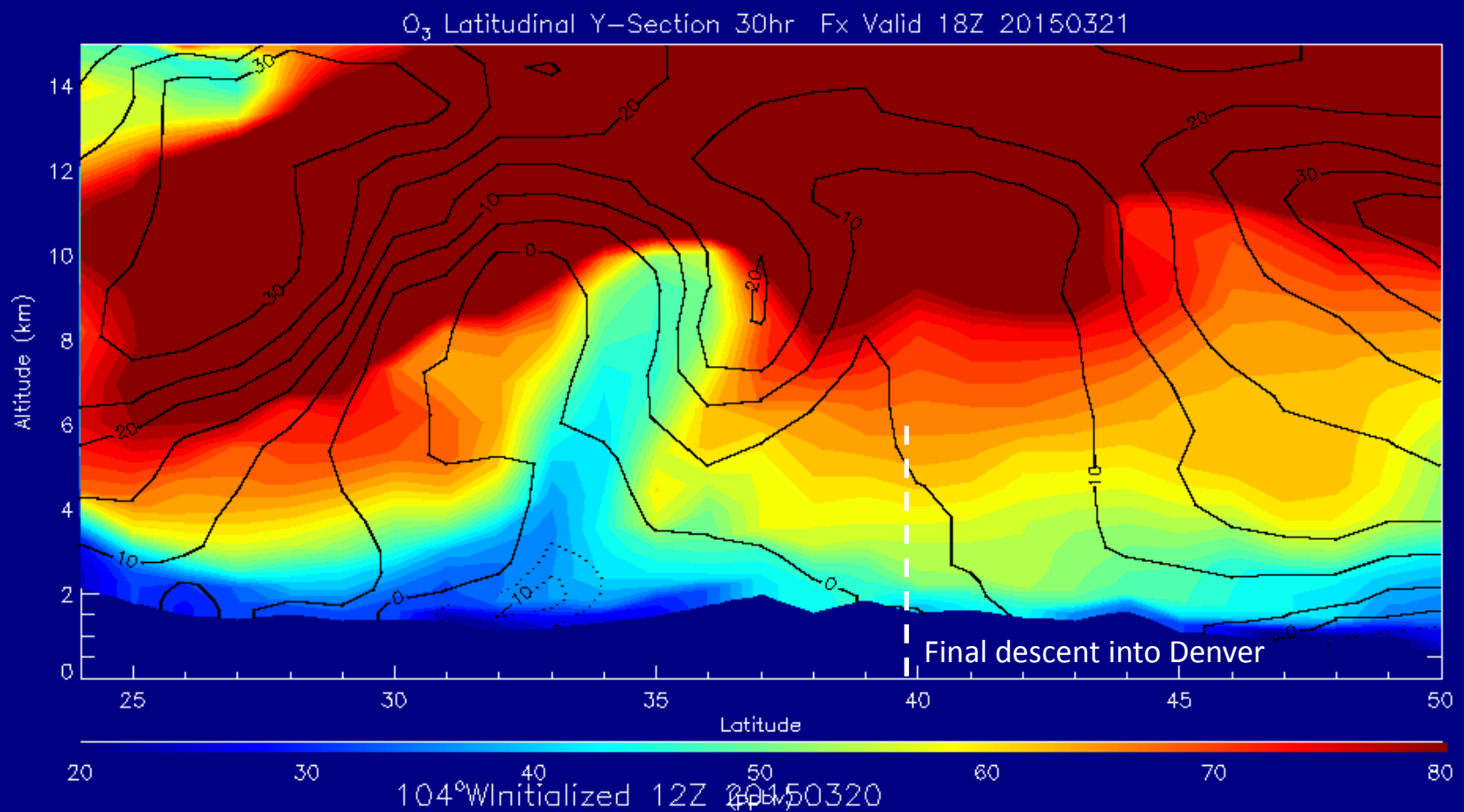


RAQMS<sub>0</sub> 30hr Fx Initialized 12Z 20150320

S-NPP overpass – final descent into Denver

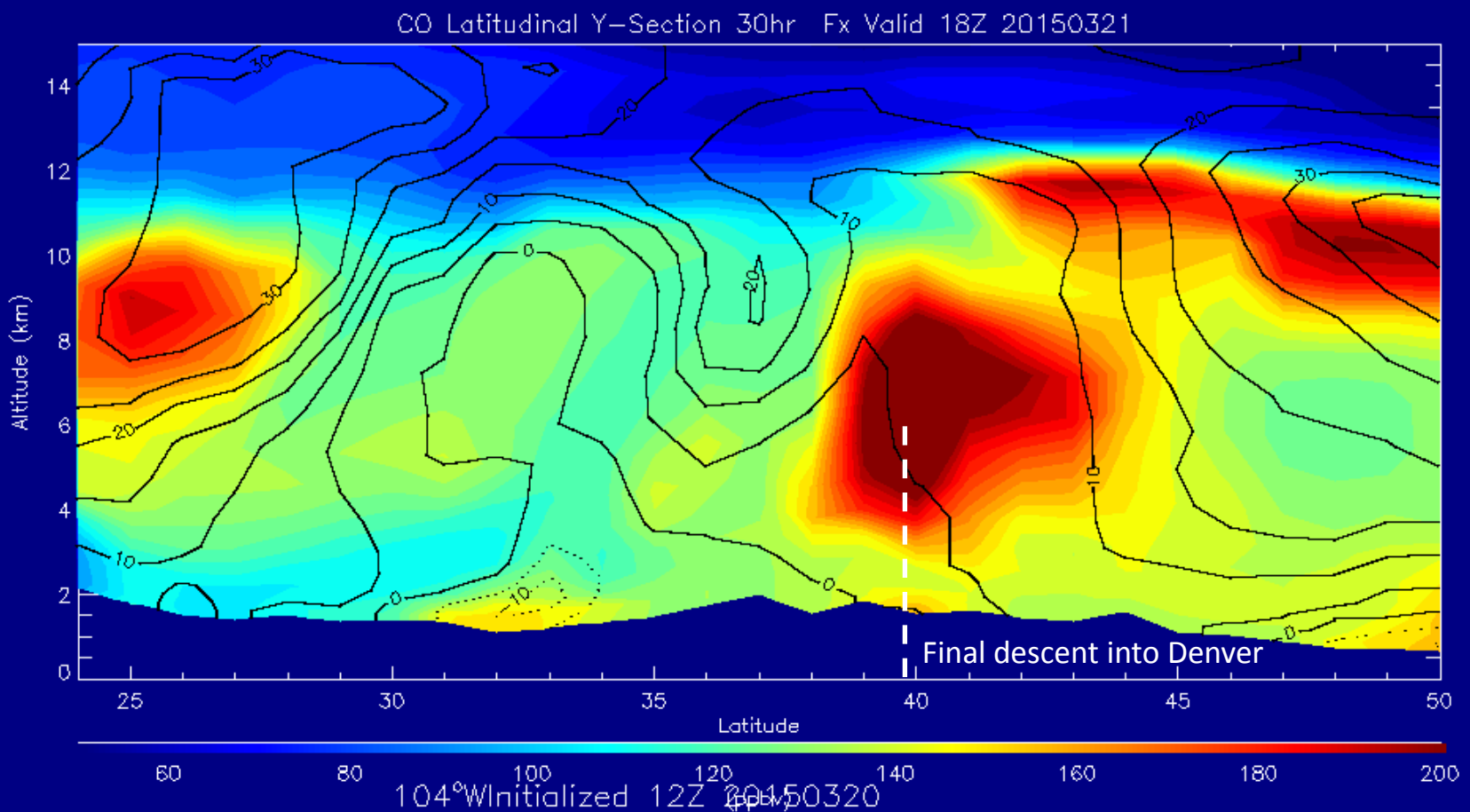
RAQMS surface CH4 constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

## RAQMS O3 Cross-section at 104W

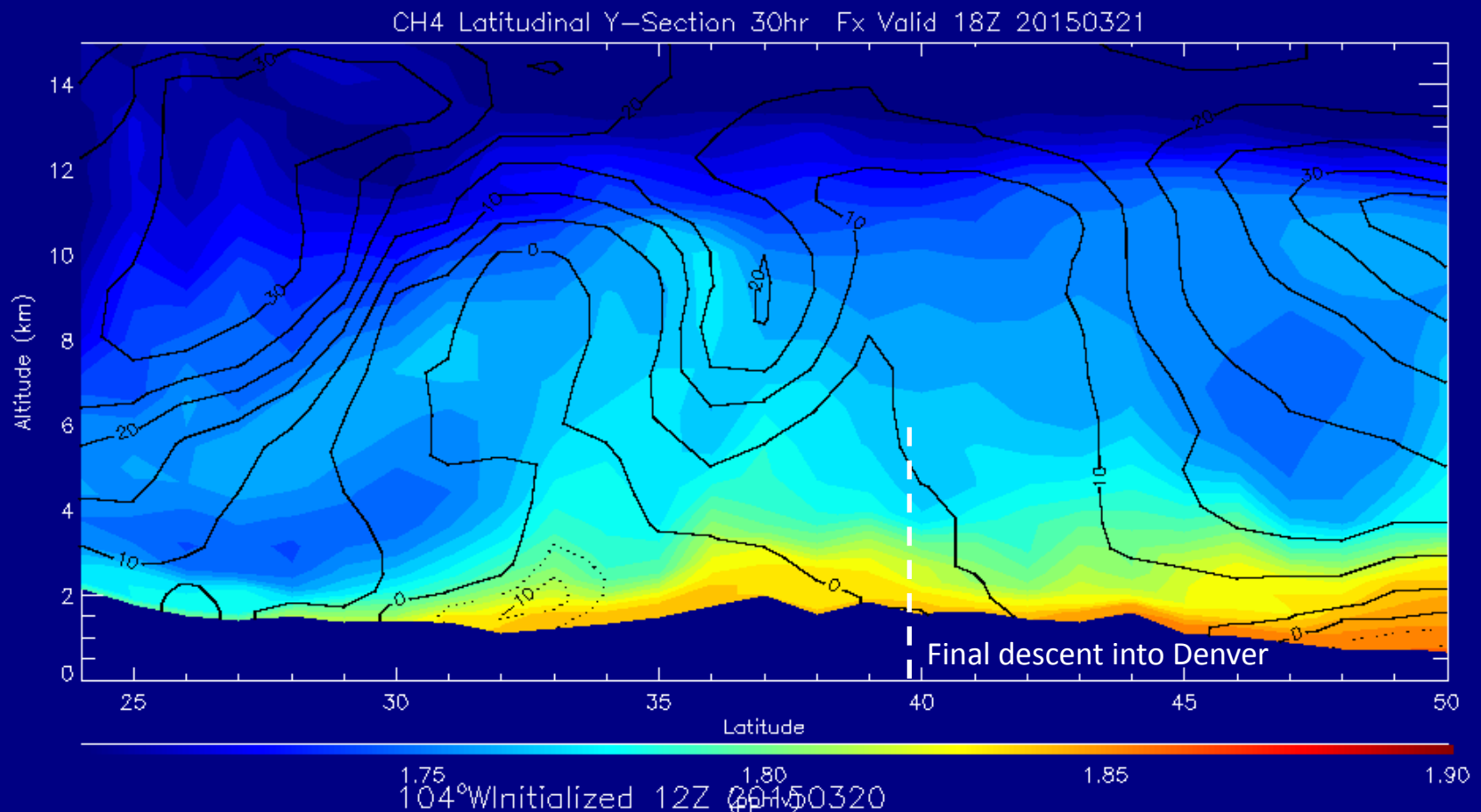


## RAQMS CO Cross-section at 104W

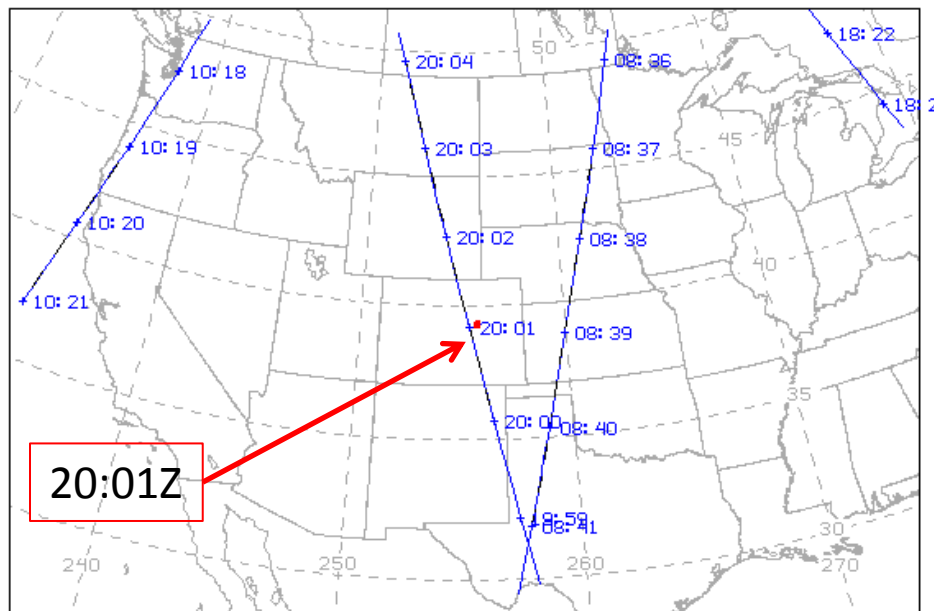
30hr FX has high CO mixing ratio plume at 6km directly over Denver



## RAQMS CH<sub>4</sub> Cross-section at 104W



RAQMS surface CH<sub>4</sub> constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

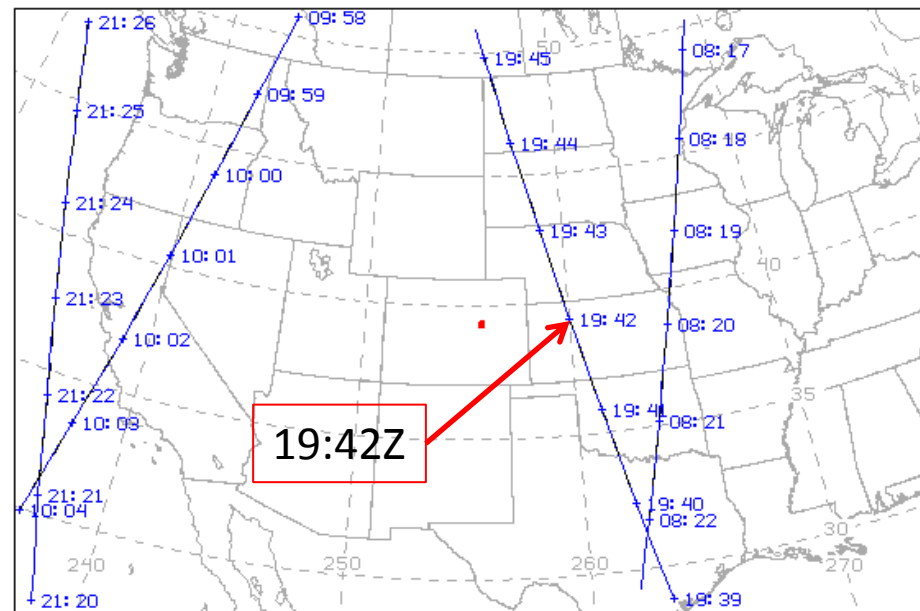


**NPP 2015/03/26 UTC**

NPP ORBITAL PREDICT PLOT

EPOCH DATE: Mar-21-2015

lat: 39.749 lon: 255.011 res: 12 km

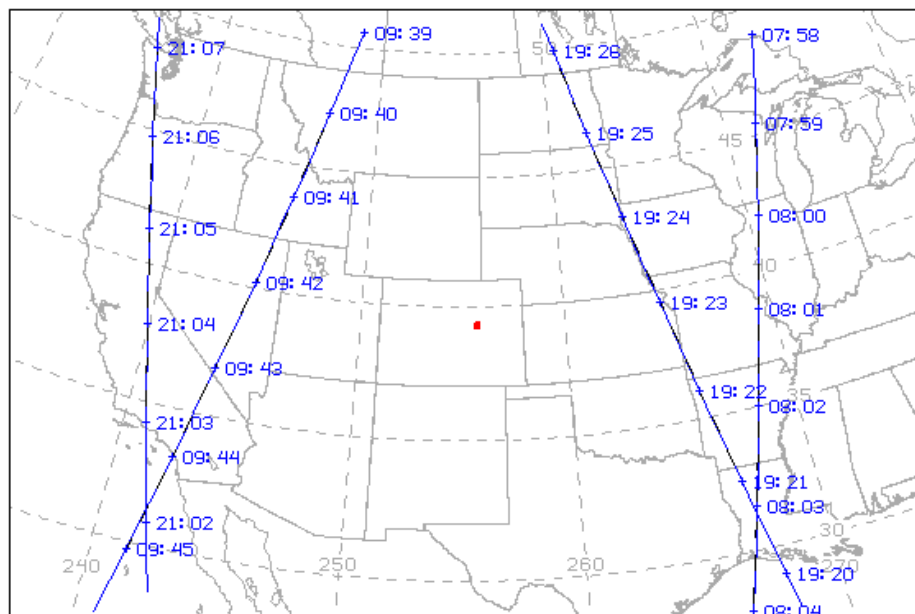


**NPP 2015/03/27 UTC**

NPP ORBITAL PREDICT PLOT

EPOCH DATE: Mar-21-2015

lat: 39.749 lon: 255.011 res: 12 km

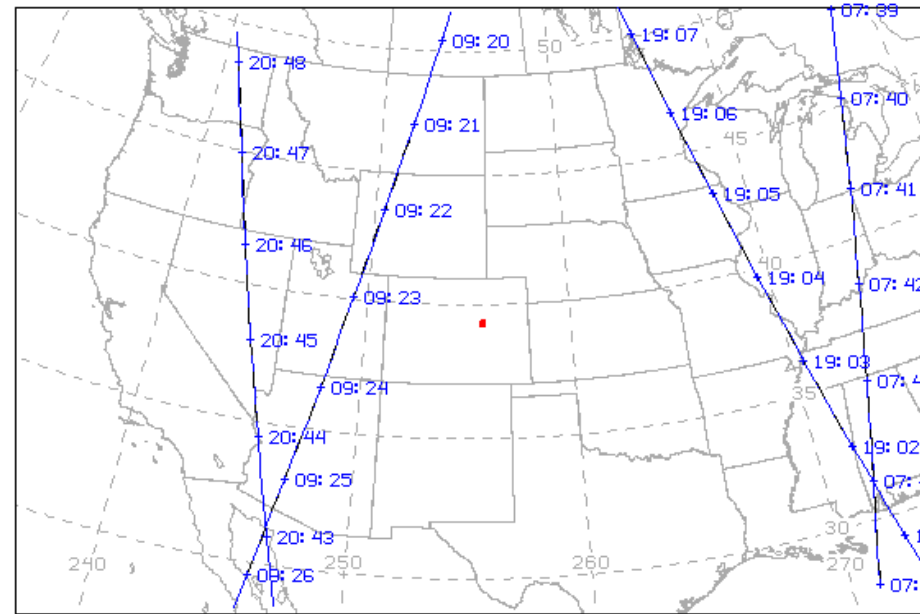


**NPP 2015/03/28 UTC**

NPP ORBITAL PREDICT PLOT

EPOCH DATE: Mar-21-2015

lat: 39.749 lon: 255.011 res: 12 km



**NPP 2015/03/29 UTC**

NPP ORBITAL PREDICT PLOT

EPOCH DATE: Mar-21-2015

lat: 39.749 lon: 255.011 res: 12 km